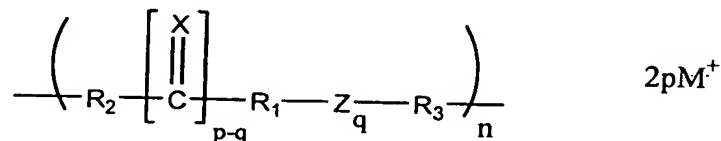


WHAT IS CLAIMED IS:

1. A redox compound having at least one state of oxidation state represented by the general formula:



5 wherein

M^+ represents an alkaline metallic cation, an alkaline-earth cation, a transition metal cation, a rare earth cation, an organometallic cation, an organic cation of the "nium" type, a repetitive unit of a cationic oxidized conjugated polymer, or a monomeric or polymeric cation optionally having a redox character;

10 X is oxygen, NCN, or $C(CN)_2$;

Z is $C-Y^-$ or N^- ;

Y represents oxygen, sulfur, NCN, $-C(CN)_2$, with the proviso that when Y is sulfur and $n \leq 4$, then X is oxygen;

15 R_1 is absent, O, S, NH, $-(C=C)_r-$, $-(W=W)_r-$ wherein W is independently CR^6 or N; r varies between 1 and 12; and R^6 is H, halogen, CN, or C_{1-12} alkyl, C_{2-12} alkenyl or C_{6-14} aryl optionally having one or more substituents oxa, aza or thia; and wherein 2 R^6 groups can be bonded to form a cycle comprising from 3 to 7 members;

R^2 and R^3 are the same or different and are absent, a carbonated divalent radical, optionally substituted with aza, oxa or thia;

20 q varies between 0 et p;

p varies between 1 and 5;

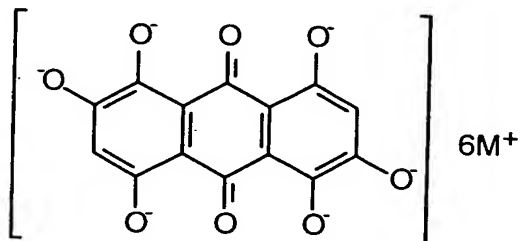
n varies between 1 and 10^4 ; and

wherein two of R^1 , R^2 and R^3 can be bonded together to form a cycle comprising 3 to 7 members.

2. A compound according to claim 1 characterised in that it is:

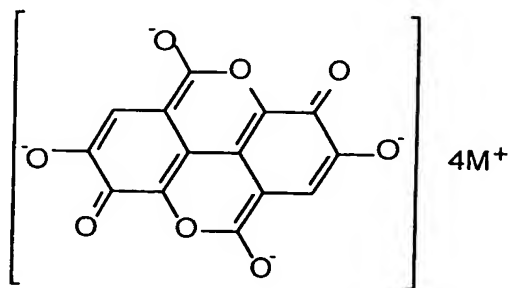
5 - a rhodizonic acid salt;

- a rufigallic acid salt represented by the formula



and its oxidation compounds;

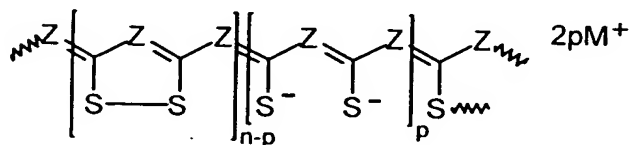
- an elagic acid salt represented by the formula



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and its oxidation compounds, wherein the oxygen atoms with a double bond can be replaced with a group NCN or $C(CN)_2$;

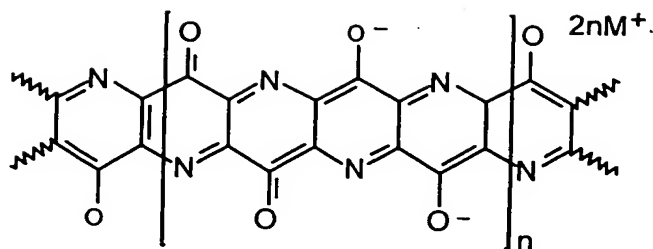
- a polymer of thiocyanic acid or 1-cyano-2-mercaptoacetylene represented by the formula



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and its oxidation and reduction products, wherein $Z = N$ or $C-CN$;

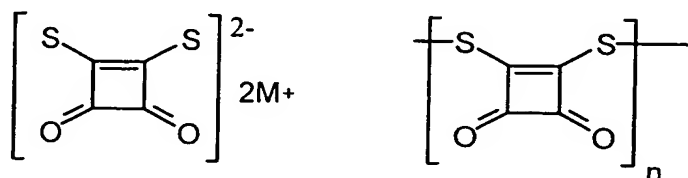
- a polymer containing units derived from keto-pyridine represented by the formula



and its oxidation and reduction products;

- an alternated polymer containing benzoquinone and pyrazine units and their oxidation and reduction products;

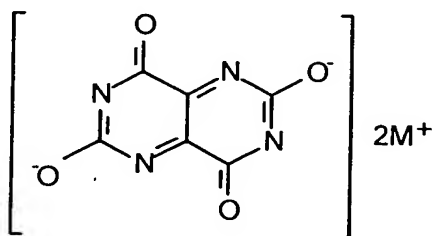
- 5 - a salt of 1,2-dimercaptocyclobutenedione (dithiosquarique) acid and its oxidation compounds, represented by formulae



and their products of oxidation;

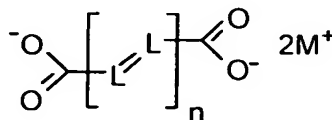
- a salt of 1,5 dihydropyrimido[5,4d]pyrimidine 2,4,6,8(3H,7H)tetrone represented by the

- 10 formula



and its oxidation compounds:

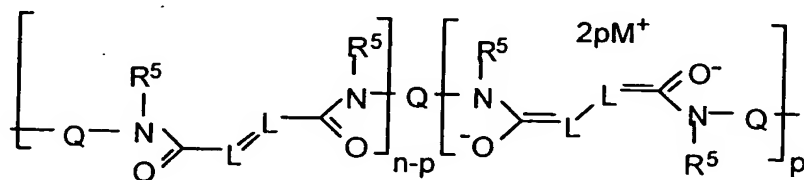
- a salt of a dicarboxylic acid comprising groups linked with conjugated segments corresponding to the formula



wherein L is independently CR⁵, N or C-CN, and wherein R⁵ is hydrogen, C₁₋₁₂alkyl, C₂₋₁₂alkenyle, C₆₋₁₀aryl, C₆₋₁₀aryl C₁₋₁₂alkyl, C₁₋₁₂alkyl C₆₋₁₀aryl optionally substituted with one or more oxa, aza or thia of from 1 to 30 carbon atoms, and wherein 2 R⁵ can form an aliphatic cycle, an aromatic cycle or a heterocycle containing from 4 to 8 carbon atoms

5 when both L are CR⁵;

- a polyamide derived from a dicarboxylic acid comprising groups linked with conjugated segments, corresponding to the formula



wherein L et R⁵ are as defined above, and Q is a divalent alkylene, alkenylene, arylene, arylalkylene, alkylearylene of from 1 to 30 carbon atoms optionally containing oxa, aza or thia substituents.

3. Compounds according to claim 2, wherein the rhodizonic acid salt is lithium rodizonate, potassium rhodizonate or copper rhodizonate, or their reduction products.

15

4. Compounds according to claim 1, characterized in they are used as a negative electrode component in electrochemical generators when redox couples are comprised between 0.1 and 2 V vs. Li⁺/Li⁰; or as a positive electrode component in electrochemical generator or as an active or passive electrode in electrochromic devices when redox couples are comprised between 2 et 3.7 V vs. Li⁺/Li⁰.

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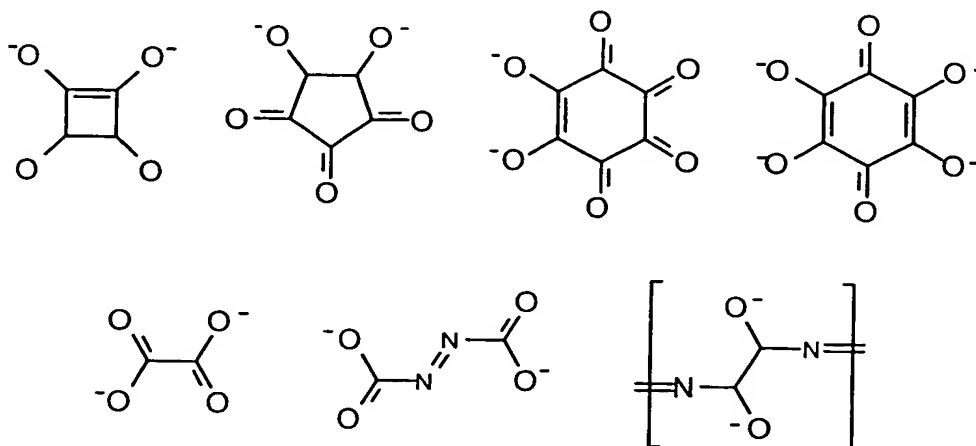
5. A redox electrode material characterized in that it contains, in whole or in part, a compound according to claim 1.

6. A material according to claim 5 characterized in that it further contains at least one electronic conductor and at least one binder.

5 7. A material according to claim 6 wherein the electronic conductor comprises carbon black or graphite powder, and the binder comprises polytetrafluoroethylene, co- or ter-polymer of ethylene, propylene and a diene.

8. A material according to claim 5 characterized in that it can be used as a source
10 of lithium to compensate for the inherent losses caused by the formation of passivation layers by the electrodes.

9. A material according to claim 8 characterized in that it comprises derivatives corresponding to the following redox anions:



10. An electrical energy storage system of the primary or secondary generator-type or super-capacity, comprising an electrolyte, at least one negative electrode and at least one positive electrode comprising a compound according to claim 1.

11. A system according to claim 10 wherein the alkaline cation is lithium cation.
12. A system according to claim 10 characterized in that the negative electrode is metallic lithium or an alloy thereof, optionally in the form of a nanometric dispersion in lithium oxide; double nitrides of lithium and a transition metal; low potential oxides of general formula $\text{Li}_{1+y}\text{Ti}_{2-x/4}\text{O}_4$ wherein x and y vary between 0 et 1; carbon and carbonated products obtained from the pyrolysis of organic materials.
13. A system according to claim 10 wherein the positive electrode comprises a further electrode material compound selected from oxides and sulfides of transition metals.
14. A system according to claim 10 wherein the electrolyte comprises a polar-type polymer, a polar solvent, or mixtures thereof, and at least one ionic salt.
15. A system according to claim 14 wherein the polar-type polymer is a polyether, a vinylidene fluoride-based homo- or copolymer, an acrylonitrile-based homo- or copolymer, or a methyl methacrylate-based homo- or copolymer.
16. A system according to claim 14 wherein the polar solvent comprises acyclic and cyclic carbonates, γ -butyrolactone, monoalkylamides and dialkylamides, tetraalkylsulfamides, dialkyl ether of mono-, di-, tri- et tetraethylene glycols and oligomers of weight inferiors to 2000 g/mole, and mixtures thereof.